

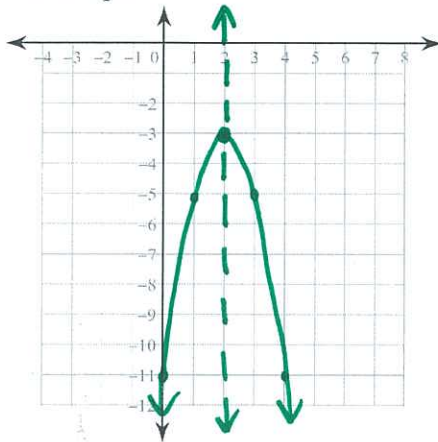
Name: AK TP: _____

1) $y = -2x^2 + 8x - 11$

a. Table:

x	0	y	-11
	1		-5
	2		-3
	3		-5
	4		-11

b. Graph:



c. AOS: $-\frac{b}{2a} = -\frac{8}{2(-2)} = 2$ d. Vertex: $(2, -3)$
 $x=2$ circle one: max min

e. Solution(s): No solutions

3) Why is it useful to know the axis of symmetry when graphing a parabola?

It cuts parabola in half, helps you find vertex because the AOS is the x-value in vertex

5) Describe the transformation of $y = -\frac{3}{4}x^2 + 1$ to the parent function ($y = x^2$)

-reflection
 -vertical shrink / horizontal stretch
 -shift up one

2) Tell which table represents a quadratic function. How do you know?

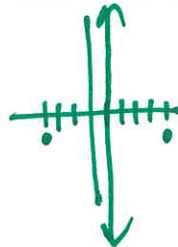
Table 1:

x	-1	0	1	2	3
y	4	1	0	1	4

Table 2:

x	-2	-1	0	1	2
y	1	3	5	7	9

vertex Quadratic
symmetric
linear
 Table 1 is a quadratic relationship

4) The points $(-3, -1)$ and $(5, -1)$ lie on the graph of a quadratic function. Explain how these points can be used to find an equation of the axis of symmetry. Then write an equation for the axis of symmetry.

$$\frac{-3 + 5}{2} = \frac{2}{2} = 1$$

$$x = 1$$

6) How could you determine if a quadratic function has a max or min vertex *before* you graph it?

if the a term is negative, the parabola will open down and the vertex will be a max

$11/16: 3x^2 + 18x + 24$

AOS: $x = -3$

y int: 24

x int: -2, -4

vertex: $(-3, -3)$ min

solutions: -2, -4

AOS: $-\frac{b}{2a} = \frac{-18}{2(3)} = \frac{-18}{6} = -3$

vertex: $3(-3)^2 + 18(-3) + 24$
 $= -3$
 $(-3, -3)$

y int: $3(0)^2 + 18(0) + 24$

y int = 24

x int: $0 = 3x^2 + 18x + 24$
 $3(x^2 + 6x + 8)$
 $0 = 3(x+2)(x+4)$
 $x+2=0 \quad x+4=0$
 $x=-2 \quad x=-4$

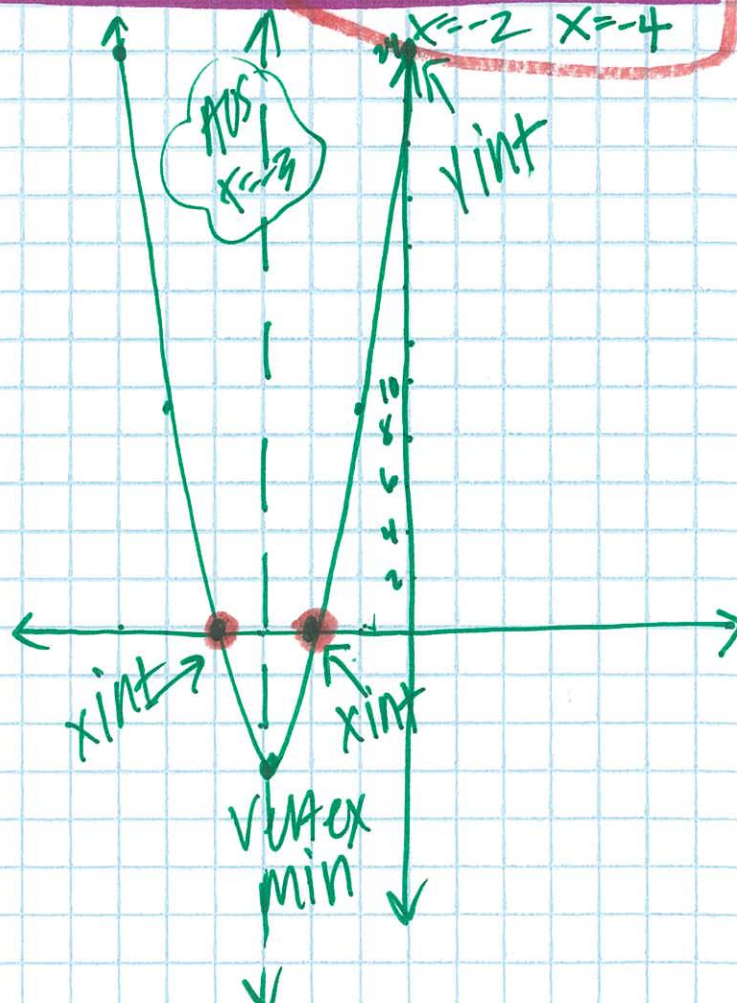
x	y
-6	24
-5	9
-4	0
-3	-3
-2	0
-1	9
0	24

x-int

vertex

x-int

y-int



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CW#3H: Solve Quad Eq'n by Factoring & Det.
Quadratic Eq'n Given Solution Set

Failure to show work on all problems or use complete sentences will result in a LaSalle.

1) $x^2 + 8x + 15$ $(x+3)(x+5) = 0$ $\frac{x}{x} + \frac{3}{5}$ $x = -3, -5$	2) $7x^2 + 22x + 3$ $(7x+1)(x+3)$ $\frac{7x}{1x} + \frac{1}{3}$ $x = -\frac{1}{3}, -3$
3) $3x^2 - 2x - 5$ $\frac{3x}{x} - \frac{5}{1}$ $(3x-5)(x+1)$ $x = \frac{5}{3}, -1$	4) $3x^2 + 2x - 8$ $\frac{3x}{x} - \frac{4}{2}$ $(3x-4)(x+2)$ $x = \frac{4}{3}, -2$
5) $4x^2 + 4x - 35$ $\frac{4x}{2x} - \frac{5}{7}$ $(4x-10)(2x+7)$ $(2x-5)(2x+7)$	6) $18 - 27x - 5x^2$ $-5x^2 - 27x + 18$ $-(5x+27x-18)$ $\frac{5x}{x} - \frac{3}{6}$ $(5x-3)(x+6)$ $x = \frac{3}{5}, -6$
7) $28x^2 + 60x - 25$ $(14x-5)(2x+5)$ $x = \frac{5}{14}, -\frac{5}{2}$	8) $15x^2 - 16x + 4$ $(3x-2)(5x-2)$ $x = \frac{2}{3}, \frac{2}{5}$
9) $8x^2 - 22x + 12$ $2(4x^2 - 11x + 6)$ $(4x-3)(x-2)$ $x = \frac{3}{4}, 2$	10) $7 + 39x - 18x^2$ $-18x^2 + 39x + 7$ $-1(18x^2 - 39x - 7)$ $(3x-7)(6x+1)$ $x = \frac{7}{3}, -\frac{1}{6}$
11) $6n^2 = 15n$ $6n^2 - 15n = 0$ $3n(2n-5) = 0$ $3n(2n-5) = 0$ $n = 0, \frac{5}{2}$	12) $14m^2 = -25m + 25$ $14m^2 + 25m - 25$ $(7x-5)(2x+5)$ $x = \frac{5}{7}, -\frac{5}{2}$

<p>1) What is the sum of the solutions to $2x^2 - 7x - 4 = 0$?</p> <p>$(2x+1)(x-4)$ $x = -\frac{1}{2}, x = 4$</p> <p>A. 3.5 B. -4.5 C. -7 D. -9</p>	<p>2) Solve the equations:</p> <p>a. $2c^2 - 11c + 5 = 0$ $\frac{2c}{1c} \times \frac{-1}{-5} (2c-1)(c-5)$ $\frac{1}{2}, 5$</p> <p>b. $-x^2 + x + 20 = 0$ $(x-5)(x+4)$ $x = 5, -4$</p>	
<p>3) What is the sum of the two values that satisfy the equation below?</p> <p>$2n^2 + n - 6 = 0$ $(2n-3)(n+2)$ $n = \frac{3}{2}, -2$</p> <p>-1.5 1.5</p>	<p>4) The expressions x^2 and $9x - 18$ are equivalent when x is equal to what value(s)?</p> <p>$x^2 = 9x - 18$ $x^2 - 9x + 18 = 0$ $(x-3)(x-6)$ $x = 3, 6$</p>	
<p>5) What are the roots of the following equation:</p> <p>$m^2 + 48 = -14m$</p> <p>$(m+6)(m+8)$ $m = -6, -8$</p>	<p>6) Find the zeros of the polynomial function:</p> <p>$f(x) = 10x^2 + 5x - 5$</p> <p>$(2x-1)(x+1)$ $x = \frac{1}{2}, -1$</p>	
<p>7) Find the zeros of the polynomial function:</p> <p>$f(x) = -3x^2 - 14x + 24$</p> <p>$-(3x-4)(x+6)$ $x = \frac{4}{3}, -6$</p>	<p>8) What is the sum of the roots of the equation?</p> <p>$x^2 = 4 + 3x$</p> <p>$(x-4)(x+1)$ $x = 4, -1$</p> <p>3</p>	
<p>9) The expressions $2b^2$ and $4 - 7b$ are equivalent when b is equal to what value(s)?</p> <p>$2b^2 = 4 - 7b$ $(2b-1)(b+4)$ $b = \frac{1}{2}, -4$</p>	<p>10) Which of the following does NOT have a solution of $x = 9$?</p> <p>a. $x^2 - 10x + 9$ b. $x^2 - 6x - 27$ c. $x^2 - 81$ d. $x^2 + 9x + 18$ e. $x^2 - 7x - 18$</p> <p>d</p>	
<p>11. Name the quadratic equation given the solution set. $\{-8, 5\}$</p> <p>$(x+8)(x-5)$ $x^2 + 3x - 40$</p>	<p>12. What quadratic equation has a solution set of $x = 8$ and $x = -9$?</p> <p>$x^2 + x - 72$</p>	<p>13. Find a quadratic equation if $x = -4$ is the ONLY solution.</p> <p>$(x+4)(x+4)$ $x^2 + 8x + 16$</p>